2013 UDOT RESEARCH PROBLEM STATEMENT

****** Problem statement deadline is March 25, 2013. Submit statements to Steve Bagley at sbagley@utah.gov ******

Problem Title: Variable Speed Limits (VSL's) in Work Zones **No. UT-13.03.18**

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UDOT Champion (suggested):

Select a Subject Area

- ☐ Materials/Pavements
- ☐ Maintenance
- ☒ Traffic Mgmt/Safety
- ☐ Geotechnical
- ☐ Preconstruction
- ☐ Planning/Asset Mgmt
- ☐ Transportation Innovation

1. Describe the problem to be addressed.

Manage traffic speeds, and possibly queuing, by utilizing VSL's in work zones during work activities. Instead of blanket speed limit reduction requests to be used for the entire length of a project, incorporate VSL's to be used at areas of work activity. Allow the ability to better manage speed reductions only where they are applicable.

2. Describe why this research is important and how it is unique.

UDOT has been asked by the AGC Highway Safety Committee to determine if VSL's would be allowed on their contracted construction projects, what our specifications or requirements to use VSL's would be, and how UDOT determines if speed limit reduction request is approved or denied. This research may help us determine if VSL's are an effective way to manage traffic speeds and flows and if proper use will increase safety for the motorists and the workers.

3. List the research objective(s) to be accomplished:

1. Determine work zone speed limit compliance and if there is an increase in the average speeds.
2. Determine if safety is improved in the work zone.
3. Determine if traffic flow is improved through the work zone and if travel time through the work zone is decreased.
4. Be able to provide constant credible speed limit info based on work activity and traffic flows/congestion.

4. List the major tasks to accomplish the research objective(s):

1. Find a project that would best incorporate a VSL system.
2. Find a company that manufactures/supplies VSL systems.
3. Have someone to oversee and manage the implementation and use of a VSL system.
4. Analyze the data for a summary and recommendation statement.

5. List the deliverable(s) to come to UDOT from this research study:

1. Data collected from the system
2. Effectiveness
3. Recommendations for future use

6. Describe how the results of this study will be implemented at UDOT.

If effective, it may help us incorporate the concept into standard specifications and standard drawings.

7. Estimated cost - Total: $ **UDOT Share:** $ **Other/Matching Funds:** $

8. Outline the proposed schedule for this study, including estimated start date, duration, and major event dates.

If possible, I would like to see this study incorporated in a construction project this season. The effectiveness of VSL compliance and safety may best be monitored on a project that lasts longer than 2 months. Looking at upcoming projects, one that could benefit and provide significant feedback is the Spanish Fork to Payson project (or one with similar characteristics). On the Payson project, we currently have NB posted speeds of 75 mph, two lanes in each direction, and major work activities at sporadic locations.